

WHAT IS CLAIMED IS:

1. A timing control method of a hardware-simulating program, a plurality of simulating elements being defined in said hardware-simulating program and executed in a predetermined sequence, said timing control method comprising steps of:

referring to a time coordinate to realize a current time point when said hardware-simulating program has been executed to a certain degree; and

suspending and then restarting operations of said simulating elements if said current time point has not reached a specified time point yet.

2. The timing control method according to claim 1 further comprising steps of:

accumulating execution time of said simulating elements; and

determining said hardware-simulating program has been executed to said certain degree when said execution time has reached or exceeded a threshold period.

3. The timing control method according to claim 2 wherein said simulating elements are executed piecewise in said predetermined sequence, respective execution time of said simulating elements is accumulatively counted, and said certain degree is determined when accumulated execution time of each of said simulating elements has reached or exceeded said threshold period.

4. The timing control method according to claim 2 wherein a period from the simulation starting point to said specified time point is a multiple or reciprocal multiple of said threshold period.

5. The timing control method according to claim 4 wherein said period from the simulation starting point to said specified time point is equal to said threshold period so that the simulation speed of said hardware-simulating program is equal to that of the simulated hardware.

6. The timing control method according to claim 4 wherein said period from the simulation starting point to said specified time point is double of said threshold period so that the simulated speed by said hardware-simulating program is a half of that of the simulated hardware.
7. The timing control method according to claim 4 wherein said period from the simulation starting point to said specified time point is a half of said threshold period so that the simulated speed by said hardware-simulating program is double of that of the simulated hardware.
8. The timing control method according to claim 2 wherein said hardware-simulating program is for simulating an instruction set executed when a microcontroller controls a plurality of peripheral devices, and said execution time of said simulating elements is accumulated by operating the count of executed machine commands with a machine cycle of said microcontroller.
9. The timing control method according to claim 1 wherein said operations of said simulating elements are restarted when said specified time point has been reached.
10. The timing control method according to claim 1 wherein said time coordinate is a system clock.
11. The timing control method according to claim 1 further comprising steps of:
  - attaching time tags to simulation data associated with a specified simulating element;
  - storing said simulation data into a queue; and
  - reading out said simulation data from said queue according to said time tags when it is the turn of said specified simulating element to operate.
12. A timing control method of a hardware-simulating program, a plurality of simulating elements being defined in said hardware-simulating program and

executed in a predetermined sequence, said timing control method comprising steps of:

referring to a time coordinate to realize a current time point when accumulated execution time of each of said simulating elements is equal to or greater than a threshold; and

performing a time-compensating operation if said current time point does not conform to an expected time point.

13. The timing control method according to claim 12 wherein when said current time point lags behind said expected time point, said time-compensating operation is performed by suspending the operations of said simulating elements until said current time point advances to conform to said expected time point.
14. The timing control method according to claim 12 wherein said expected time point is equal to said threshold so that the simulation speed of said hardware-simulating program is equal to that of the simulated hardware.
15. The timing control method according to claim 4 wherein said expected time point is a multiple of said threshold so that the simulated speed by said hardware-simulating program is a reciprocal multiple of that of the simulated hardware.
16. The timing control method according to claim 4 wherein said expected time point is a reciprocal multiple of said threshold period so that the simulated speed by said hardware-simulating program is a multiple of that of the simulated hardware.
17. A recording medium recorded therein an accessible and executable hardware-simulating program, said hardware-simulating program defining therein a plurality of simulating elements, and said simulating elements being

executed in a predetermined sequence and automatically synchronized at intervals with a time coordinate of a system executing said hardware-simulating program, wherein said simulating elements are automatically synchronized by:

referring to said time coordinate to realize a current time point whenever said hardware-simulating program has been executed to a certain degree; and

performing a time-compensating operation if said current time point does not conform to an expected time point.

18. A software platform for facilitating control program development, allowing a hardware-simulating program to work thereon, said hardware-simulating program defining therein a plurality of simulating elements, and said simulating elements being executed in a predetermined sequence and automatically synchronized at intervals with a time coordinate of a system executing said hardware-simulating program, wherein said simulating elements are automatically synchronized by:

referring to said time coordinate to realize a current time point whenever said hardware-simulating program has been executed to a certain degree; and

performing a time-compensating operation if said current time point does not conform to an expected time point.

19. The software platform according to claim 18 wherein said time coordinate is referred to realize a current time point when accumulated execution time of each of said simulating elements is equal to or greater than a threshold, the operations of said simulating elements are suspended when said current time point lags behind said expected time point, and the operations of said simulating elements are restarted when said current time point advances to conform to said expected time point.

20. The software platform according to claim 19 wherein said accumulated execution time of each of said simulating elements is calculated by timing the count of executed machine commands with a machine cycle of the simulated hardware.